

WHAT IS CLAIMED IS:

1. A liquid cartridge comprising:
 - a liquid containing section for containing a liquid;
 - a cartridge body which comprises a liquid supplying part for supplying a liquid in said liquid containing section outside;
 - a valve member contained in a concave part formed at said cartridge body to be opened when a pressure difference between said liquid containing section and said liquid supplying part occurs; and
 - a valve lid for holding said valve member by being fitted into said concave part and besides pressing an outer circumference of said valve member toward a wall face of said concave part, wherein a projection is formed on a surface, with which said valve member is in contact, of said wall face in said concave part to be in pressure contact with said valve member along said outer circumference of said valve member.
2. A liquid cartridge as claimed in claim 1, wherein said valve lid comprises a valve member contact part provided to face said projection holding said valve member for pressing said valve member toward said projection by being in contact with said valve member.
3. A liquid cartridge as claimed in claim 1, further comprising a seal member for sealing to urge an outer surface opposite to a surface, on which said valve member is provided, of said valve lid and a wall face of said cartridge body around said outer surface of said valve lid toward a direction in which said valve lid is in contact with said projection, wherein said concave part is formed on said wall face of said cartridge body.

4. A liquid cartridge as claimed in claim 1, wherein said valve member is formed of an elastic material, and said projection is in pressure contact, deforming said valve member.

5. A valve unit accommodated within a liquid cartridge body which includes a liquid containing section for containing therein liquid and a liquid supplying section for supplying the liquid to the outside of the cartridge body, the valve unit comprising:

a valve member which is elastically deformable to open in accordance with a pressure difference generated between the liquid containing section and the liquid supplying section, said valve member comprising a cylindrical peripheral edge;

a valve lid comprising a substantially cylindrical valve member holding part inserting inside said peripheral edge of said valve member for fixing said peripheral edge; and

an urging member provided between said valve member and said valve lid for urging said valve member in a direction away from said valve lid.

6. A valve unit as claimed in claim 5, wherein said valve lid further comprises a wall surface contact part of a substantially cylindrical shape, of which an inner diameter is larger than an outer diameter of said peripheral edge part of said valve member, surrounding said valve member holding part, being in contact with a wall face of a concave part formed at said cartridge body to which said valve lid is attached.

7. A valve unit as claimed in claim 5, wherein said urging member is a coil spring,

said valve lid comprises a spring fitting part of a

cylindrical shape, of which an inner diameter is substantially the same as an outer diameter of said coil spring, projecting to face said valve member at a position on which said coil spring is in contact, and

said coil spring is held in said valve lid by being fitted into said spring fitting part.

8. A valve unit as claimed in claim 7, wherein said spring fitting part has a notch enabling a liquid to flow into and/or out of said spring fitting part, even though said valve member is attached to said spring fitting part.

9. A valve unit as claimed in claim 8, wherein said spring fitting part has a plurality of notches cut in from said valve member, and

at least one of lengths of a plurality of projecting pieces in a surface direction formed by said plurality of notches is larger than an inner diameter of said coil spring.

10. A valve unit as claimed in claim 5, wherein said urging member is a coil spring,

said valve member comprises a valve lid side projecting part of a substantially cylindrical shape, of which at least a part of an outer diameter is larger than an inner diameter of said coil spring, projecting to face said valve lid at a position on which said coil spring is in contact, and

said coil spring is held in said valve member by inserting said valve lid side projecting part into said coil spring.

11. A valve unit as claimed in claim 5, wherein said urging member is a coil spring,

said valve member comprises a valve lid side projecting part of substantially cylindrical shape, of which at least a part of an inner diameter is smaller than an outer diameter of said coil spring, projecting to face said valve lid at a position on which said coil spring is in contact, and

said coil spring is held in said valve lid by being fitted into said valve lid side projecting part.

12. A valve unit as claimed in claim 5, wherein said valve member comprises a seal part provided to project toward an opposite side to said urging member corresponding to a position at which said valve member is urged by said urging member, for preventing said liquid containing section and said liquid supplying part from communicating with each other by being urged by said urging member toward a wall face side of a concave part formed at said cartridge body.

13. A liquid cartridge comprising said valve unit as claimed in claim 5.

14. A method for manufacturing a liquid cartridge, which comprises a liquid containing section for containing a liquid, a cartridge body comprising a liquid supplying part for supplying said liquid in said liquid containing section outside and a valve unit comprising a valve member contained in said cartridge body to be opened when a pressure difference between said liquid containing section and said liquid supplying part occurs, comprising the steps of:

preparing said cartridge body comprising said liquid containing section and a valve unit containing section, which is a concave part formed at said cartridge body, communicating

with said liquid containing section;

forming a valve unit by putting an urging member, which urges said valve member toward a direction being distanced from said valve lid, between said valve member comprising a peripheral edge part, of which a peripheral edge is cylindrical in shape, elastically deformable based on said pressure difference and a valve lid comprising a valve member holding part of a substantially cylindrical shape for fixing said peripheral edge part by being inserted into said peripheral edge part of said valve member; and

attaching said valve unit to said valve unit containing section.

15. A method for manufacturing a liquid cartridge as claimed in claim 14, further comprising a step of sealing by a sealing member to cover an outer surface opposite to a surface, on which said valve member is provided, of said valve lid and a wall face of said cartridge body around said outer surface of said valve lid.

16. A method for manufacturing a liquid cartridge as claimed in claim 14, wherein said attaching step comprises a step of forcing a projection to be in pressure contact with said valve member, and

said projection is provided along an outer circumference of said valve member on a wall face with which said valve member of said pressure-difference regulating valve unit containing section is in contact.